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Date: June 11, 2003

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**PATENT**  
36856.218

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Takashi SHIKAMA et al.	Art Unit: 2832
Serial No.: 09/401,080	Examiner: T. Nguyen
Filed: September 22, 1999	
Title: COMPOSITE INDUCTOR ELEMENT	

**REQUEST FOR RECONSIDERATION****FAX RECEIVED**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

JUN 11 2003

**TECHNOLOGY CENTER 2800**

Sir:

In response to the Office Action dated December 13, 2002, the period for response to which has been extended to June 13, 2003, by the accompanying Petition for a THREE-month Extension of Time, please reconsider the above identified application in view of the following remarks.

Claims 1 and 3-11 are pending in this application.

Claims 1 and 3-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 8-306570 in view of JP 63-79306 and JP 3-171702. Applicants respectfully traverse the rejection of claims 1 and 3-11.

Claim 1 recites:

"A composite inductor element comprising:  
a block made of at least either resin or rubber having a magnetic material dispersed therein, external electrodes being provided on said block; and  
a plurality of spirally wound coils buried in said block, end portions

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of each of the plurality of coils being electrically connected to said external electrodes; wherein

the plurality of coils are arranged such that axes of all of the plurality of coils extend substantially parallel to one another; and

**at least one of said plurality of coils has a different electrical characteristic produced by at least one of (1) a different number of windings of said at least one of said plurality of coils from that of the remainder of said plurality of coils, (2) a different thickness of said at least one of said plurality of coils from that of the remainder of said plurality of coils, (3) a different diameter of said at least one of said plurality of coils from that of the remainder of said plurality of coils, and (4) a different space between wound sections of said at least one of said plurality of coils from that of the remainder of said plurality of coils." (emphasis added)**

Applicants' claim 1 recites the features of "at least one of said plurality of coils has a different electrical characteristic produced by at least one of (1) a different number of windings of said at least one of said plurality of coils from that of the remainder of said plurality of coils, (2) a different thickness of said at least one of said plurality of coils from that of the remainder of said plurality of coils, (3) a different diameter of said at least one of said plurality of coils from that of the remainder of said plurality of coils, and (4) a different space between wound sections of said at least one of said plurality of coils from that of the remainder of said plurality of coils." With the improved features of Applicants' claim 1, Applicants have been able to provide a composite inductor element which has a significantly reduced cost and greatly reduced space requirement (see, for example, the second full paragraph on page 2 of the Specification).

Applicants agree with the Examiner that JP 08-306570 shows an inductor and does not teach or suggest the claimed composite material or that at least one of the electrical coils has a different electrical characteristic from the other coils as recited in Applicants' claim 1.

The Examiner has relied upon JP 63-079306 to allegedly teach the claimed composite material of resin or rubber having a magnetic material dispersed therein. The Examiner has alleged that it would have been obvious to one of ordinary skill in the

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art to modify JP 08-306570 "for the purpose of enhancing the inductance of the device" (second paragraph on page 3 of the Office Action). Applicants respectfully disagree.

Applicants are completely bewildered as to what "enhancing the inductance" means. This phrase does not appear anywhere in the English language abstract of JP 63-079306. "Enhancing the inductance" is a very broad motivation, and the Examiner has completely failed to explain why one of ordinary skill in the art would have specifically modified the core body 7 of JP 08-306570 to be made of the resin 2 mixed with ferrite powder of JP 63-079306, especially in view of the fact that the core body 7 of JP 08-306570 is inserted into the coil 5 shown in Fig. 5 of JP 08-306570 and the coil 1 of JP 63-079306 is entirely embedded in the resin 2 mixed with ferrite powder.

The Examiner is reminded that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. In re Geiger, 815 F.2d 686, 2 USPQ 1276, 1278 (Fed. Cir. 1987).

Accordingly, Applicants respectfully submit that the Examiner has not provided proper motivation for combining the teachings of JP 08-306570 and JP 63-079306.

In fact, JP 63-079306 and JP 08-306570 cannot be combined as suggested by the Examiner. JP 08-306570 teaches in the English language abstract that the inductor must be "burned," that is sintered. However, JP 63-079306 teaches in the English language abstract the use of an resin epoxy mixed with "sintered fine ferrite powder" which is "heated and fused and is then hardened," that is cured and set. The epoxy resin mixed with "sintered fine ferrite powder" of JP 63-079306 cannot be used in the device of JP 08-306570 because the epoxy resin of JP 63-079306 cannot be sintered because of the high temperatures involved with sintering. If the resin mixed with the sintered fine ferrite powder of JP 63-079306 were sintered, the resulting inductor element would be completely inoperable.

As clearly explained above, JP 08-306570 and JP 63-079306 diverge from each other so much so that they cannot be combined, and also diverge from Applicants'

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claimed invention. The Examiner is reminded that it is error to find obviousness where references diverge and teach away from the invention at hand. W.L. Gore & Assoc. v. Garlock Inc., 721 F.2d 1540, 1550, 220 USPQ 303, 311 (Fed. Cir. 1983).

Further, the Examiner has relied upon JP 03-171702 to allegedly teach the feature that at least one of the electrical coils has a different electrical characteristic from the other coils as recited in Applicants' claim 1. Specifically, the Examiner alleged that JP 03-171702 teaches the use of coils with different diameters and refers to **Fig. 5** of JP 03-171702. However, **Fig. 5** of JP 03-171702 is a close up view of the material 24, with **A** being the metallic magnetic powder, **B** being the electrical insulating film, and **C** being the electrical insulating powdery binder material, **NOT different coil sizes** as recited in Applicants' claim 1. In fact, there is absolutely nothing in JP 03-171702 that teaches or suggests different coil sizes as recited in Applicants' claim 1.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. §103(a) as being obvious over JP 08-306570 in view of JP 63-079306 and JP 03-171702.

Accordingly, Applicants respectfully submit that JP 08-306570, JP 63-079306, and JP 03-171702, applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in claim 1 of the present application. Claims 2-10 depend upon claim 1, and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicants petition the Commissioner for a THREE-month extension of time, extending to June 13, 2003, the period for response to the Office Action dated December 13, 2002.

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The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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